Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Srinivasa Garden Layout 1st Main Road	**Date of Sampling**	**07-10-2021**
		Date of Testing	**08-10-2021**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	625	83	522	75
16.0	12.5	1142	122	1012	118
12.5	10.0	790	65	745	65
10.0	06.3	625	56	565	42
	Total	**3182**	**326**	**2844**	**300**

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.25
Elongation Index(%):	10.55
Combined FI+EL (%)	20.79

Note:

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4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

Consultant's Representative

Project	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Srinivasa Garden Layout 2nd Main Road	**Date of Sampling**	**07-10-2021**
		Date of Testing	**08-10-2021**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	610	82	522	75
16.0	12.5	1130	120	980	115
12.5	10.0	775	56	720	56
10.0	6.3	620	65	566	45
	Total	**3135**	**323**	**2788**	**291**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.30
Elongation Index(%):	10.44
Combined FI+EL (%)	20.74

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Asst. Executive Engineer
Project Division
Yelahanka Zone - 02
BBMP, Bangalore

Consultant's Representative

TEJUS
CONSULTANTS

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G. Narayana Swamy.
Date of Testing	:	08-10-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 7

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Rajanna House Road from Thirumenahalli Road to Agrahara Layout Main Road	Date of Sampling:	07-10-2021
		Date of testing:	08-10-2021
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	378	378	3.78	96.22	95-100
22.4	2415	2793	27.93	72.07	60-80
11.2	2480	5273	52.73	47.27	40-60
4.75	1488.0	6761	67.61	32.39	25-40
2.36	795.0	7556	75.56	24.44	15-30
0.6	830.0	8386	83.86	16.14	8.0-22.0
0.075	995.0	9381	93.81	6.19	0-8
Pan	619.0	10000			
Total	10000.0				

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Project Division
Yelahanka Zone
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Consultant's Representative

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G. Narayana Swamy.
Date of Testing	:	08-10-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 8

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Agrahara Layout Main Road	Date of Sampling:	07-10-2021
		Date of testing:	08-10-2021
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	357	357	3.57	96.43	95-100
22.4	2415	2772	27.72	72.28	60-80
11.2	2480	5252	52.52	47.48	40-60
4.75	1488.0	6740	67.40	32.60	25-40
2.36	795.0	7535	75.35	24.65	15-30
0.6	830.0	8365	83.65	16.35	8.0-22.0
0.075	995.0	9360	93.60	6.40	0-8
Pan	640.0	10000			
Total	10000.0				

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore

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Consultant's Representative

TEJUS
CONSULTANTS

Name of Work	:	Developments works to be under taken in Ward No.05 of BBMP around Solid Waste Disposal Processing units Bellahalli, Bagaluru and Kattigenahalli Byatarayanapura Constituency.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Sri.A G. Narayana Swamy.
Date of Testing	:	08-10-2021
Type of Mix	:	WMM
Sample I/D	:	WMM 11

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Srinivasa Garden Layout 1st Main Road	Date of Sampling:	07-10-2021
		Date of testing:	08-10-2021
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	392	392	3.92	96.08	95-100
22.4	2415	2807	28.07	71.93	60-80
11.2	2480	5287	52.87	47.13	40-60
4.75	1488.0	6775	67.75	32.25	25-40
2.36	795.0	7570	75.70	24.30	15-30
0.6	830.0	8400	84.00	16.00	8.0-22.0
0.075	995.0	9395	93.95	6.05	0-8
Pan	605.0	10000			
Total	10000.0				

Asst. Executive Engineer
Project Division
Mahadeva Zone
BBMP, Bangalore - 92

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Consultant's Representative

Project	Development works to be under taken in ward no.5 of BBMP around solidwaste disposal procesing units bellalli bagaluru and kattigenalli , byatarayanapura constituncy ,	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri.A G. Narayana Swamy.	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**08-10-2021**
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	**Rajanna House Road at Ch:220**	**Rajanna House Road at Ch:330**
Wt. of wet material from hole (Ww) gms.	5986	5978
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10594
Wt. of sand in hole+ cone (w3) gms.	4405	4406
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3326
Bulk density of sand (ys) gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(ys))gm/cc	2.38	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.39	98.41
% compaction required	98%	98%

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Asst. Executive Engineer Project Division KCMP, Bangalore-37

Consultant's Representative

TEJUS CONSULTANTS
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Project	Development works to be under taken in ward no.5 of BBMP around solidwaste disposal procesing units bellalli bagaluru and kattigenalli , byatarayanapura constituncy ,	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	Sri.A G. Narayana Swamy.	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**08-10-2021**
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	1	2
Chainage	**Agrahara Layout Main Road at Ch:95**	**Agrahara Layout Main Road at Ch:155**
Wt. of wet material from hole (Ww) gms.	5974	5987
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10594
Wt. of sand in hole+ cone (w3) gms.	4405	4406
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3326
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4* (γs))gm/cc	2.37	2.38
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.19	98.56
% compaction required	98%	98%

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Asst. Executive Engineer
Project Division
Yelahanka Zone - 92
BBMP, Bangalore

Consultant's Representative

Project	Development works to be under taken in ward no.5 of BBMP around solidwaste disposal procesing units bellalli bagaluru and kattigenalli , byatarayanapura constituncy ,
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Sri.A G. Narayana Swamy.

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**08-10-2021**
Layer no. or level	WMM I layer	
Depth of hole	200mm	
Field density:	**1**	**2**
Chainage	**Eshwara Condiments Side Road at Ch:65**	**Noor Nagar Main Road at Ch:85**
Wt. of wet material from hole (Ww) gms.	5969	5984
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10594
Wt. of sand in hole+ cone (w3) gms.	4405	4406
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3326
Bulk density of sand (ys) gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.11	98.51
% compaction required	98%	98%

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Consultant's Representative

Asst. Executive Engineer
Division
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